Competition Systems Ltd - UK
Tel 0044 (0)8707 444666 / Fax 0044 (0)8707 444888
E-mail: mail@competitionsystems.co.uk www.competitionsystems.co.uk

Installation – TCS-4C_Triumph_675D_AB (revision_02, 09/11/11)
Author – Mick Boasman

NEMESIS - TCS

Nemesis-TCS 'Traction Control System
Installation manual Triumph 675 Daytona Standard or race seat

UK
Tel – 08707 444 666
Fax – 08707 444 888
mail@competitionsystems.co.uk

Kit part No.	**TCS-4C_Triumph_675D_AB**
This application is designed for use with the Triumph 675 Daytona and is fitted using the passenger footrest mounts.	

Speed pick up components	**Part No**	**Checked**	**Qty**
Front left fork leg speed bracket	CSD1398		1
Rear speed bracket	CSD1400		1
Spacer - 12.8 - 8.2 - 5.0	CSD1392		2
M6 x 20 allen cap screw s/s	CSP1038		1
M8 x 22 shoulder screw - 10mm shank	CSF1060		5
M8 x 50 zinc plated cap screw	CSF1054		2
Speed sensor	23813030401		2
Foam strip to be applied to the upper side of CSD1400	CSP1024		1
M6 x 16 Zinc Hex head cap screw - Speed sensor	CSP1019		2

Traction module components	**Part No**	**Checked**	**Qty**
Traction Control Module - 4c	CSP1048		1
TCS - 4c standard back panel	CSD1337		1
TCS Mounting Plate - Triumph 675 daytona	CSD1397		1
M8 x 16 low head zinc dome screws	CSF1058		2
Bobbin - Dia 10x17, M4 female	CSP1046		4
M4 x 8 SS button head allen screw	CSF1045		8
M4 spring washer	CSF1050		8
M8 Nyloc nut	CSF1057		2
M8 x 40 cap screw	CSF1065		2
M8 plain washer	CSF1056		4

Wiring	**Part No**	**Checked**	**Qty**
Module Wiring	CSW1401		1
Front Wiring	CSW1371		1
Throttle signal - quick link (red)	CSP1015		1

Display module components	**Part No**	**Checked**	**Qty**
Display module	TC-Pod		1
Spacer - 11mm Dia x 6.5	CS1258		1
TC-Pod mounting bracket - triple clamp	CSD1399		1
M3 x 8 Hex button head	CSP1018		2
M6 x 40 s/s cap head screw	CSP1025		1
Push button assembly - blue/green TC-Pod	CS972		1

Miscelaneous components	**Part No**	**Checked**	**Qty**
Cable ties - 200mm x 4mm	CSP1021		10
Printed TCS system manual			1
Printed Triumph 675 AB manual			1
Nemesis-TCS stickers	CSP1022		6

Copyright – Competition Systems Ltd 2011 – 30/8/2011

Competition Systems Ltd - UK
Tel 0044 (0)8707 444666 / Fax 0044 (0)8707 444888
E-mail: mail@competitionsystems.co.uk www.competitionsystems.co.uk

IMPORTANT – To be read by ALL installers and owners

Notes –

- This kit is designed for use on bikes fitted with a 'race type' or standard seat fairing
- Power for the TCS system is via the horn connector. If the bike horn is to be retained the installer will need to splice into this wire.

Terms of use

The presence of the Nemesis-TCS does not take away the responsibility of the rider to operate the bike correctly within their own abilities, the track conditions and the laws of physics.

The system is designed to achieve greater on-track performance by the use of power modulation during wheel slip events, but in no way should it be considered possible for the system to recover from every conceivable loss of grip. The onus for safety always rests with the rider to stay within his or her own abilities, and to ensure that the 'on-bike' equipment is programmed, setup correctly, and an appropriate TC level selected for the skill of the rider, the bike and the track conditions.

This equipment is intended for racing or track day performance use only and where exhaust emission controls are not applicable.

By installing and using the Nemesis-TCS you automatically indemnify Competition Systems Ltd, our suppliers and our authorised dealers from all first party or third party loss or damages. Normal components warranty is not affected

---

Preparation. Remove these parts from the bike.

- All fairing panels
- Fuel tank
- Air box upper and lower sections
- Seat fairing

TC-Display pod Fitting:

- Mount the display pod to the bracket using the M3x8mm screws, then attach it to the uppermost bolt of the triple clamp as seen in the picture.
- Carefully bend the bracket as seen in the picture.
- Mount the switch assembly to the clutch lever assembly cylinder clamp using the M6x40 bolt and spacer provided. Connect the switch assembly to the TC-Pod via the 4-way connector of the TC-Pod wiring
- Do not secure any wires in place at this stage, as there will be further wires added in this region.
- If installing a pit limiter switch, mount it on the right brake lever assembly.

Copyright – Competition Systems Ltd 2011 – 30/8/2011

Competition Systems Ltd - UK
Tel 0044 (0)8707 444666 / Fax 0044 (0)8707 444888
E-mail: mail@competitionsystems.co.uk www.competitionsystems.co.uk

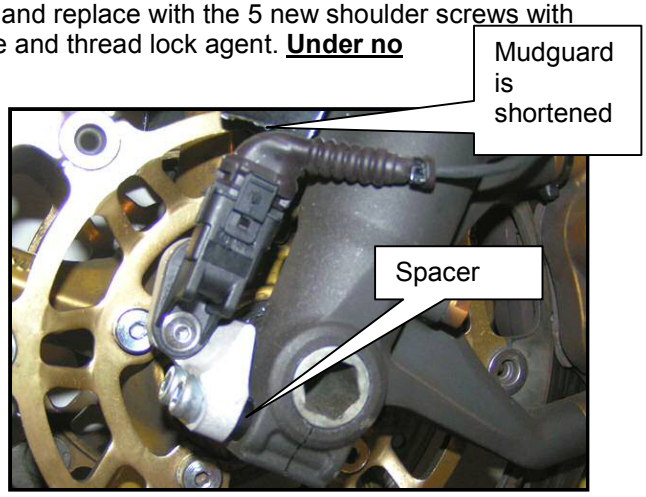
Installation – TCS-4C_Triumph_675D_AB (revision_02, 09/11/11)

Author – Mick Boasman

Front Wheel Speed:

Your TCS kit comes with a dedicated bracket, sensor, spacers and different disc cap-head bolts.

- Remove the 5 bolts that secure the left brake disk in place and replace with the 5 new shoulder screws with higher profile. Fit to the manufacturer recommended torque and thread lock agent. **Under no circumstances should any alternative bolts be used.**
- Remove the two M8 spindle clamp bolts from the left fork and retain for future use. Use the two new longer M8x50mm bolts, 5mm spacers and bracket but do not at this stage tighten these bolts.
- Remove the rubber O ring from the sensor body and fit into the rebate of the sensor bracket.
- Apply a small amount of grease to the sensor body and push the sensor into the bracket. Lock in place using one of the M6x16 cap
- **Check the gap between the sensor face and the surface of one of the new disc bolts, set to 1mm to 12.0mm** and now tighten the two M8 bolts to the manufacturers recommended torque.



- The sensor maximum range is approx 4mm for smaller targets and 6mm for larger targets, therefore no other ferrous objects should be installed anywhere near this sensor
- **These are safety critical components and could result in wheel locking, brake failure or TCS damage if fasteners come loose.**

Note – It will be necessary to cut approx 10mm from the lower edge of the left mudguard leg to clear the speed sensor connector

Wiring

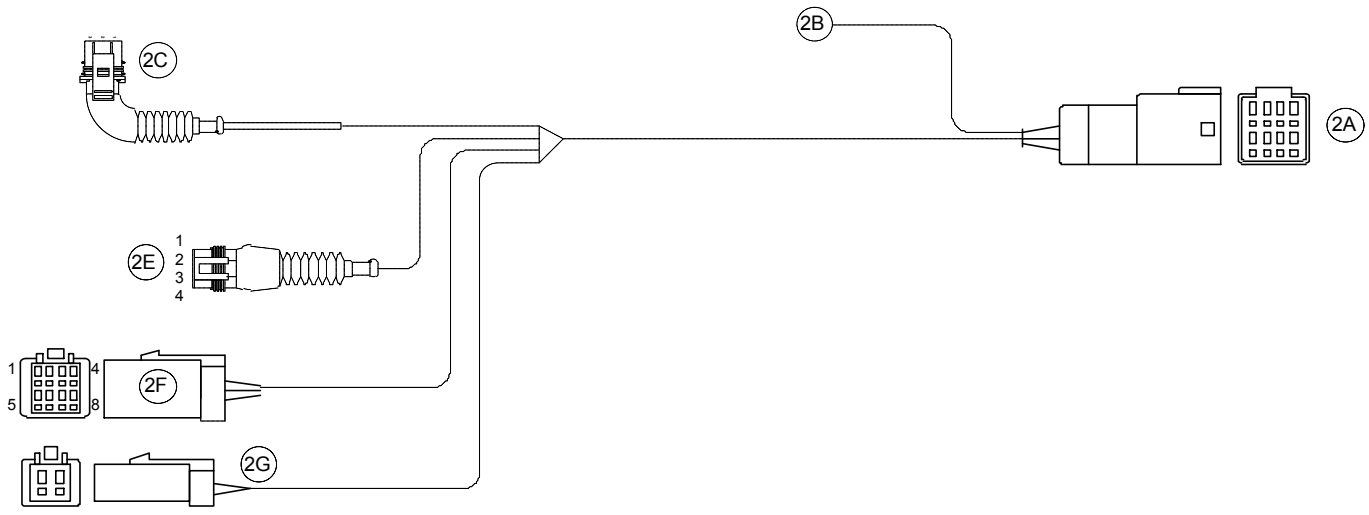
The wiring provided in this kit comes in 2 parts to simplify the installation and enable crash damaged parts to be replaced without a major strip down.

Wiring – Front section

The front section wiring (part No.CSW1371) has connections for all of these elements

- 2C - Front speed sensor
- 2F - TC-Pod display
- 2G - Pit lane speed limiter switch
- 2E - PC communication point (4 way AMP)
- 2A - Chassis link
- 2B - Throttle signal (single wire)

This wiring **MUST** be routed along the left side of the bike to avoid electrical interference. Do not at this stage cable tie the wiring in place.



Copyright – Competition Systems Ltd 2011 – 30/8/2011

Competition Systems Ltd - UK
Tel 0044 (0)8707 444666 / Fax 0044 (0)8707 444888
E-mail: mail@competitionsystems.co.uk www.competitionsystems.co.uk

Installation – TCS-4C_Triumph_675D_AB (revision_02, 09/11/11)

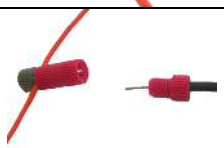
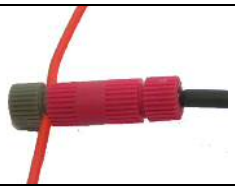
Author – Mick Boasman

Wiring / Front – Throttle

The throttle input is the single wire 2B of this loom . This needs to be attached to the signal wire of the standard bike throttle position connector using the red quick link provided in the kit, as shown in the steps below and the image to the right.

Note that the signal wire is supplied long and may be shortened as necessary and that you are connecting to the throttle 'INPUT' sensor.

Signal wire is green/yellow

The quick link is made up of three parts as seen here on the right:	
Using the green section with the slot, push it over the orange throttle signal wire of the bike loom until the wire rests at the bottom of the slot:	
The large red centre section must be fitted the correct way around or the link **will not work.** Locate the end with the sharp pointed tip protruding from the end of the outer body and screw this end onto the green section until it rests firmly against the wire. The sharp tip will pierce the outer sleeve but not sever the inner core of the wire:	
Strip back the sleeve of the throttle input wire on the TCS loom so that 8mm of inner metal core is exposed. Push this into the red cap as seen here on the right with inner core showing:	
Screw this cap and wire into the main body ensuring that metal inner core and wire cores are sandwiched and held securely. Shrink sleeving can be put over this quick link if required.	

Wiring / Front – TC-Pod display

Connect the front wiring loom to the TC-Pod display via the 8 way connector **2F**

Wiring / Front – front wheel speed

Route the front speed wiring **2C** across the front of the bike and following the same route as the brake line to the left calliper, connect it to the front speed sensor. The wiring for sensor must be routed taking all of the following into consideration.

- Movement of forks
- Rotation of the steering
- Positioning of paddock stands

Wiring / Front – PC connector

The 4 way PC connector should remain accessible but securely cable tied to the existing harness.

Wiring / Front – Pit limiter switch

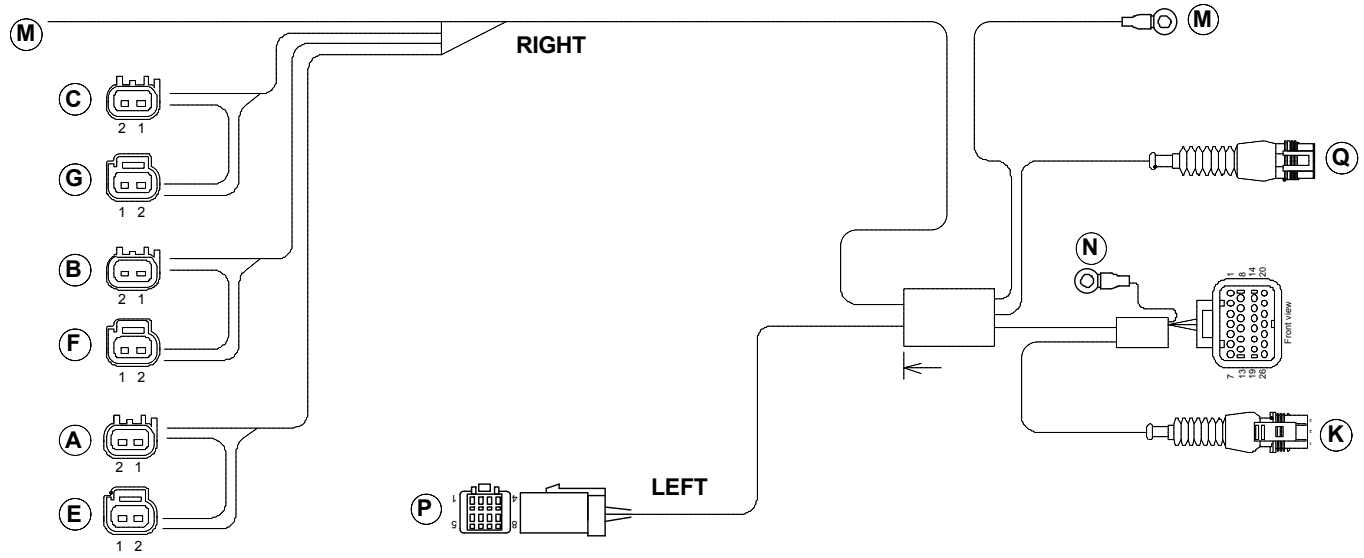
The 2 way pit limiter switch connector can be cable tied out of the way if not needed or plugged into the dedicated red switch assembly CSP1041

Copyright – Competition Systems Ltd 2011 – 30/8/2011

Competition Systems Ltd - UK
Tel 0044 (0)8707 444666 / Fax 0044 (0)8707 444888
E-mail: mail@competitionsystems.co.uk www.competitionsystems.co.uk

Installation – TCS-4C_Triumph_675D_AB (revision_02, 09/11/11)

Author – Mick Boasman



Wiring – Rear section / Ignition coils

Route this loom starting from the underside of the bike on the left side, there is a gap under the battery tray allowing the loom to pass through.

Refer to the diagram above and dive the loom to pass down the left or right side of the bike. Do not at this stage cable tie the wiring in place.

The following 3 connections are all ignition coil INPUT signals from the bike to the TCS unit and must be routed on the right side
A - Connect to Coil 1 wiring from bike wiring loom
B - Connect to Coil 2 wiring from bike wiring loom
C - Connect to Coil 3 wiring from bike wiring loom

The following 4 connections are all ignition coil OUTPUT signals from the TCS to the drive the ignition coils
E - Connect to Coil 1 on the bike
F - Connect to Coil 2 on the bike
G - Connect to Coil 3 on the bike

IMPORTANT – It is vitally important that the coil inputs and outputs are connected correctly or the bike may not start on all cylinders, or may even damage the engine.

Wiring – Rear speed

The rear speed wire K should be routed down the swinging arm and cable tied in place. Make sure you leave enough room for suspension movement when securing the cable and avoid any possibility for damage during movement.

Wiring – Battery ground

This vital connection **M** must be connected directly to the battery negative connector, not to the engine block or any other ground source.

IMPORTANT – Failure to fit the ground securely can lead to misfire / engine not starting / TCS module damage. This is the main power ground for the coil system.

Wiring – Front link

Connector **P** should be routed along the **LEFT** side of the bike all the way to connect up with 2A from the front loom.

Wiring – Quick shifter input

Connector **Q** is available for use with most type of OFF/ON switch type quick shifter.
Pin 1 – Vbat power
Pin 2 – Ground
Pin 3 - Signal
For more information on quick shifter connections please refer to the ‘System manual’

Copyright – Competition Systems Ltd 2011 – 30/8/2011

Competition Systems Ltd - UK
Tel 0044 (0)8707 444666 / Fax 0044 (0)8707 444888
E-mail: mail@competitionsystems.co.uk www.competitionsystems.co.uk

Installation – TCS-4C_Triumph_675D_AB (revision_02, 09/11/11)

Author – Mick Boasman

Wiring – Power feed

On the front right of the bike you will find a female spade connector **M** for the horn. This connector is an 'ignition switched' 12v feed that we will use to power the TCS system.

If you are not sure which connector to use it can be checked with a multimeter, you will find 12v when the ignition is ON

Wiring – TCS module and ground

Connect the main wiring loom to the TCS module. It is vitally important that the small ground wire with the 4mm eye (**N**) be connected securely to the M4 stud as seen here using the M4 Nyloc nut. Without this the module or coils could be damaged as well as TCS not functioning correctly.

The TCS module mounting bracket and TCS module are held together using the 4 rubber mounts, M4x8mm screws and lock washers.

This assembly is then held to the sub frame horizontally using the M8 screws and nyloc nuts. It may not be possible to retain the rear foot rests when fitting this kit.

IMPORTANT – Failure to fit the module in the orientation shown and mounted on a horizontal axis will significantly affect the functionality of the TCS system, if any adjustment is necessary use M4 plain washers under the rubber mounts. Connector offset is towards rear of the bike

Rear speed

The rear speed sensor fits to a dedicated bracket on the underside of the swinging arm. This bracket is attached using the M6x20 screw and should be installed using a suitable thread lock agent.

You will notice that the upper face of the bracket is rubber coated, this is an anti-vibration damper and should not be removed.

The gap when the sensor is installed should be 1>2.5mm from the face of the sprocket bolts.

Route the wiring up the swinging arm towards the TCS module and secure using cable ties.

PC Setup

Your TCS module should be loaded with the following bike :

BIKE - TRIUMPH_675D.BIKE
TYRE – To suit your installation
CONFIG - TCS_4C_Base_35_02.CONFIG

Default rear tooth count: 6

Status **Position** offset value –
Stronger - **0.21 to 0.32** – Refer to **WinTC View Data**
Normal - **0.32 to 0.37** – Refer to **WinTC View Data**
Weaker - **0.37 to 0.47** – Refer to **WinTC View Data**

Copyright – Competition Systems Ltd 2011 – 30/8/2011